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Abstract

Teaching in today's classrooms is not the same as it has been in the past; that is what teachers claim. There is a new generation of students, with new expectations and capacities, coming into the classroom. The Internet and technology in general are used everywhere to communicate and interact with others. Today, students are looking for different interactions and ways of learning in the classroom. Therefore, technology should be used not only because students are using new technologies ubiquitously outside of the classroom, but also because the use of technology can enrich students' understandings of diversity and culture, which can foster collaboration, participation, and collective intelligence.

Introduction

Teaching in today's classrooms is not the same as it has been in the past; that is what some teachers claim. There is a new generation of students, with new expectations and capacities, coming into the classroom. The *internet generation* or *digital natives* (Montgomery, 2007; Prensky, 2001; Tapscott, 1998) are terms used to refer to young students in today's world. The internet and other technologies are used everywhere outside of school to communicate and interact but not in an effective way that can foster learning and critical thinking. On the other hand, many schools are resistant to these changes and continue using traditional ways of teaching and learning. Educators need to understand that our society has evolved and that our students are looking for different interactions and ways of learning in the classroom.

As teachers, we need to develop skills and strategies that will supplement traditional teaching with new literacies; in other words, we need to implement technology-enhanced instruction that supports students in various ways of being and knowing. By doing so, students can use technology to engage in learning as well as develop critical thinking skills within e classroom like they do outside of them. The purpose of this paper, then, is to argue for the importance of using 21st century technology-based literacy skills to enhance culture and diversity in the classroom. First, we will define new literacies and their relationship to teaching and learning. Then we will present a Web 2.0 framework based on Lankshear and Knobel's (2006) two mindsets. After that, we will explain important components of the framework and provide examples of activities and studies where the technology has been successfully used to enhance such components. Finally, after mentioning the importance of teacher education, we will discuss the importance of new literacies in enhancing culture and diversity in the classroom.

New Literacies

According to The United Nations Educational, Scientific and Cultural Organization (n.d.) "Literacy can no longer be seen as just a technical skill; as simply the ability to read and

write"(n.p.). Different authors (Cope & Kalantzis, 2000; Kalantzis & Cope, 2009; New London Group, 1996) contend that traditional literacy can now be seen as complemented by multiliteracies. Lankshear and Knobel (2006) and Street (2003) refer to these literacies as "new literacies", (Botelho, 2007) as "critical multiliteracies", and Kirsch and Guthrie (1978) as "functional literacy"; this last one is more related to multitasking. All these views and definitions of literacy are the result of "the increasing cultural and linguistic diversity in society, an increasing awareness of the social, economic, and political forces enacted on curriculum; and the recognition of different modes of meaning making and communication (audio, visual, linguistic, spatial, performative, etc.) by educators"(Gallagher & Ntelioglou, 2011, p. 323).

Clearly, the word "literacy" has evolved extensively within the last 40 years. The term itself has become widely related not only to reading and writing but also to any form of acquiring knowledge and learning. We consider literacies a new way of understanding and seeing the world around us. Literacy involves all the different skills and processes required to interact and understand one another; skills and processes such as reading, writing, listening, speaking, using technology, understanding visual cues, using numbers, and critical thinking to communicate and comprehend the world. *New literacies* is an evolving term that faces constant change as new technologies and new literacies emerge (Cammack, Coiro, Kinzer, & Leu, 2004). It is not a new concept itself, but rather it involves different ways, tools, and technologies in the process of learning and interacting with other people.

Lankshear and Knobel (2006) affirm that the term new literacies refers to but is not limited to three-dimensional literacy, cultural literacy, critical literacy, technological literacy, higher order literacy, powerful literacy, and multiliteracies. According to the authors, literacy has three dimensions: the critical (meaning), the cultural (context), and the operational (language) (Green, 1998 in Lankshear & Knobel, 2006). The critical dimension refers to the understanding of literacy as socially constructed practices that involve effective participation. This includes being able to not only participate and make it meaningful, but also to transform and produce new literacies. The cultural dimension refers to the ability of being able to interpret meaning contextually. In other words, it emphasizes the importance of reading and writing within appropriate contexts to be able to successfully communicate with others. Finally, the operational dimension is the capability to play appropriately with the components of reading and writing. These multiple views of new literacies have changed and made our own views and understandings of literacy completely wide open and in a sense different. Within this view and according to Lankshear and Knobel (2006), we offer a Web 2.0 framework that will connect new literacies with teaching and learning. We argue that new literacies can be implemented in the classroom by using new technologies that students are already using outside of school. Our main idea is that new technologies can enrich our students by helping them to become more open minded, skillful, and at the same time conscious and respectful about others. When explaining each component of our framework, we focus on the importance of enhancing culture and diversity in the classroom by providing examples and activities that can be redesigned using new technologies.

A Web 2.0 Framework

To discuss new technologies we need to focus on the latest technological innovations. For example, Web 2.0 can be considered as a cultural phenomenon that has taken learning and participation to a different level. Web 2.0 supports a process known as 'massive collaboration,'

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where many people build incrementally upon each other's work (Tenenbaum, 2006). Funk (2009) describes Web 2.0 as "a social transformation that has put more interactivity and control of content into the hands of regular users, not just big site owners" (p. xv). Geoff (2007) defines Web 2.0 as a name given to a new set of technologies that have changed completely the way people use the Internet, e.g., "Web 2.0 tools allow individuals to read information whilst networking with their friends at the same time; moreover, they can share knowledge with each other" (Uzunboylu et al., 2011, p. 721). Lankshear and Knobel (2006) refer to Web 2.0 as a new mindset; making a distinction between Web 1.0 (mindset 1) and Web 2.0 (mindset 2) respectively (p. 38) as shown in Table 1.

Table 1

Distinction between Web 1.0 and Web 2.0 from Lankshear and Knobel (2006)

Mindset 1	Mindset 2

The world is much the same as before, only now it is more technologized, or technologized in more sophisticated ways:
• The world is appropriately interpreted, understood and responded to in broadly physical-industrial terms
• Value is a function of scarcity.
• An 'industrial' view of production:
  • products as material artefacts
  • a focus on infrastructure and production units (e.g., a firm or company)
  • tools for producing
• Focus on individual intelligence
• Expertise and authority 'located' in individuals and institutions
• Space as enclosed and purpose specific
• Social relations of 'bookspace'; a stable 'textual order'
	The world is very different from before and largely as a result of the emergence and uptake of digital electronic internetworked technologies:
	• The world cannot adequately be interpreted, understand and responded to in physical-industrial terms
	• Value is a function of dispersion
	• A 'post-industrial' view of production:
	  • products as enabling services
	  • products as enabling services
	  • a focus on leverage and non finite Participation
	  • tools for mediating and relating
	• Focus on collective intelligence
	• Expertise and authority are distributed and collective; hybrid experts
	• Space as open, continuous and fluid
	• Social relations of emerging 'digital media space' texts in change

According to Lankshear and Knobel (2006), "Web 2.0 is defined by a 'post-industrial' world view that focuses much more on services and 'enabling' than on production and sale of materials" (p.43). In a Web 2.0 framework, a number of factors are important: collective participation, collaboration, distributed expertise, open and fluid spaces, and digital social relations. In combining Web 2.0 with new literacies (the critical, the cultural, and the operational, as described above), we consider these three aspects important: participation,

collaboration, and collective intelligence. We consider that these three components described below, will help in explaining the importance of using technology to enhance learning, cultural understanding, and diversity.

Participation

As mentioned previously, participation is one of the central components of new literacies (Lankshear & Knobel, 2006). In fact, one of the distinctions between Web 1.0 and Web 2.0 is participation rather than just publication. "Participation is the way that an online tool (application or service) is designed to facilitate and improve massive use by users" (Kim, Yue, Hall, & Gates, 2009, p. 662). According to Palloff and Pratt (2005) participation among learners is essential because it makes them active in the learning process rather than just sitting and receiving information from their teacher. The same authors add that participation provides students with an opportunity to find out about each other through the activities they perform together. Nov et.al (2009) affirm that participation in online communities can be divided in two forms or types: sharing information and goods and joining social networks. Sharing information and goods implies contributing to content and information. Examples can be tagging information, pictures, or/and bookmarking or commenting on weblogs or Facebook and participating in team blogs (Bryant et al., 2005; Cheshire & Antin, 2008; Koh et al., 2007; Lee, 2006; Marlow, Naaman, Boyd, & Davis, 2006). The second type of participation implies involvement of users in one or more interactions. An example of this is Flickr, where participation among users is created around topics of interest or reflections about already existent social organizations and structures (Negoescu & Gatica-Perez, 2008).

Additionally, the creation of one-to-one connections with other online members (by adding them as "friends" or "contacts") reflects participation in communities such as Facebook or Flickr where members can post, comment, and receive feedback from other users (Nov & Ye, 2008). In classrooms these applications can be used to engage students in discussing topics of interest for the class. For instance, students can post videos, pictures, readings, poems, etc. and ask their classmates to give their opinions and understandings of the topic. By doing so, the students, in fact, would be able to communicate with others, share their ideas, culture, and knowledge, which would promote their learning process in and outside the school. Furthermore, it is important to consider that when using technology and working online, studies have shown that students are less likely to be shy; thus, they participate and interact better with others. It is important to mention that since online safety is essential for our students, teachers need to look for websites that are safe for students and where students can interact, communicate, and learn from others. The majority of school districts today have websites that can be used to promote participation and learning not only within the district itself, but also with other districts and schools around the area and around the world. Finally, by participating, online students are more likely to interact with other people outside of their comfort group. Hurtado (1996) states that researchers have found positive effects of exposing students to diversity because it can improve students' educational outcomes. The author adds that students feel more included and valuable when they can interact and be heard by others. This can also improve students' skills such as tolerance, respect for others, and creativity because students are exposed to diverse interactions that can bring new ideas and many opportunities for learning, participating and collaborating.

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Collaboration

Another important component of Web 2.0 is collaboration. Collaboration is vital to "new literacies" according to Lankshear and Knobel (2006). Tenenbaum [2006] defines collaboration as a process on which "individuals build incrementally upon each other's' work" (p. 53). Lankshear and Knobel (2006) affirm that collaboration is an example of collective intelligence and agree that "conventional social relations associated with roles of author/authority and expert have broken down radically under the move (…) from centralized authority to mass collaboration, and the like" (p. 52). The authors believe that knowledge is socially constructed. "Collaboration can be considered as an advanced form of participation in which participants directly or indirectly contribute to focused creation of contents serving a common purpose shared by the community" (Kim, Yue, Hall, & Gates, 2009, p. 662). Information can be shared freely on the internet, which can bring together students from across the world into the virtual environment. Students have the opportunity to enter into audio and video communication with friends outside the classroom. In one instance, "collaboration occurs when reviewers provide feedback on texts posted by authors for comment and review" (Lankshear & Knobel, 2006, p. 86). Additionally, collaboration can have a positive impact among participants since it requires them to work with each other on problem solving tasks and to negotiate meaning by sharing ideas (Stahl, Koschmann, & Suthers, 2006).

One example of collaboration is "Project Citizen," a program that encourages students to work towards solving their community problems, allowing them to create their own curriculum as well as ways to look for and find solutions (Schultz, 2008). In fact, Project Citizen gives students the opportunity to be engaged, allowing them to solve and identify problems to implement change within the school community or the local community. Since local knowledge is embedded in community practices, institutions, relations, and rituals, and since technology is a part of the local knowledge, Project Citizen is an example of how collaboration might be embedded in community practices (Schultz, 2008). In this case, teachers can use technology to help students learn about diverse solutions by connecting them online with other districts and communities with similar situations.

Another example of a Web 2.0 collaboration revolves around wikis and blogs. The online encyclopedia Wikipedia.org provides a good example of collaborative writing that promotes collective intelligence and knowledge production in the public domain. There are also second language websites where students post their blogs to improve their writing skills. Users can publish their blogs and receive feedback as well as new ideas from readers. In this way students are being assessed by their peers every time they post a blog, and learn while reflecting on other's work. At schools, students can use such websites or their school websites to create blogs, individually or as groups, where they write and investigate about diverse topics. It is important to add that depending on the type of collaboration project students can be assessed as individuals or in groups. In other words, collaboration can serve as a way of assessing how our students perform and interact with each other. Thus, students improve their research and writing skills as well as their abilities working as team members and building on meaning and common knowledge; this is a clear example of collective intelligence.

Collective intelligence

As mentioned before, collective intelligence is a form of collaboration that focuses on

creating knowledge itself more than on creating a product. "collective intelligence includes cooperative work and cooperative intelligence, but there is something more than just cooperation. (…) [It] takes many different forms including (…) collective work, collective thinking, group activities, enrichment and capitalization of knowledge and intelligence, and collective training" (Cornu, 2004, p.43). According to the same author, collective intelligence seeks to address multiple tasks and activities. In classrooms, learning is typically looked at as an individual task, but in fact, knowledge and abilities can be seen as collective entities, not just as isolated activities. Therefore, collective intelligence requires new tools such as information and communication technologies that permit all types of communication among users (Cornu, 2004).

Rheingold (2002) in his book, *Smart mobs: The next social revolution*, affirms that "[s]mart mobs consist of people who are able to act in concert even if they don't know each other. (…) [They] cooperate in ways never before possible because they carry devices that possess both communication and computing capabilities" (p. xii). The author sustains that "the Internet enables us to build collective intelligence" (p. 179) as smart mobs and create "[t]he social mind!" and agrees with Jenkins (2006) who considers that convergence culture is a word that can be used to describe industrial, social, technological and cultural changes; it depends on who is speaking and what is being said. Jenkins (2006) affirms that it is impossible for anyone to hold all the information about all the existing topics. Each person can only store a certain amount of information and even if it might be a lot, there will be always more information than what we can hold in our heads. At the same time, all the different pieces of information can be put together to create collective Intelligence. According to Jenkins (2006) collective intelligence could also be seen as a form of media power that can change the way we learn and share information to create a broader understanding and shared knowledge.

Activities that support collective intelligence should be a part of education due to its importance in the learning process. Yet, in a traditional classrooms setting, one can see how teachers are the ones who prepare the lessons, correct the exams, and assign the activities. In these contexts, students receive information from the teacher; there is no collective intelligence at all due to the limited access to technology and the tasks it supports. However, there are many activities and online resources that can promote collective intelligence. For instance, students can search for the same topic in different contexts and then share with the whole class to create a bigger understanding of the same idea. The majority of the activities that promote collective intelligence can be attached to different school subjects such as math, science, social studies, etc. and can be approached as jigsaws, where students become experts on one part of the subject that will be shared later with the whole class. Furthermore, students can work on learning about their classmates not only by asking them, but also by searching online about their cultures and customs. By sharing ideas and learning from each other students are building common knowledge that allows them to become aware of cultural differences and different ways to solve problems, as well as being more open minded and respectful to others. All of these help enhance cultural understanding and diversity.

Fostering Cultural Understanding and Diversity

We have been discussing the importance of enhancing culture and diversity in the classroom and how using technology improves awareness and skills among students. According to Semich, Gregory, and Grahams (2005), technology can play an important role in enhancing the cultural relationships and communications among diverse students in multicultural classes.

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They add that computers and the internet constitute a hospitable environment for participation, collaboration, and collective intelligence among students belonging to diverse cultures. Using technology can be an effective tool used to foster relationships between cultures in the classroom (Schwartz, 2001). Furthermore, it offers reciprocal learning opportunities for all students participating in a learning community and promotes sharing of values, beliefs, and customs. Uzunboylu, Bicen, and Cavus (2010) point out that educators have a number of creative applications for the interactive format which is thought to enhance diversity in the classroom. An example of those applications is the use of web logs which can be helpful for students in various ways. For example, a group blog helps to develop different skills such as critical thinking and literacy skills which help learners to develop abilities to search the Internet for their school projects and assignments. In addition, blogs and wikis allow multiple students to share and collaborate in a format that can be used in different settings. Many interaction-based activities have been implemented by teachers without technology; what we suggest is that teachers redesign such activities to teach new literacy skills to their students.

There are a number of activities and exercises which can be supported by technology use to enhance culture and diversity in the classroom. One such activity that can be supported by communication technologies is BaFa BaFa. This simulation is based on the idea that students are divided into two groups according to two different cultures, namely Alpha and Beta. Participants play the role of tourists for a short time, and they are not allowed to tell anything about their countries and culture; the others are required to find that out themselves according to what they can understand from their observations and errors.

Another exercise the teacher can use to enhance culture and diversity is an activity where the teacher asks the students to look for fairytales from different countries around the world on the internet. Then, students mark on the map the country of the story they found; after that they email their colleagues from other classes to tell them about the stories and students have the option to provide country maps, flags, and illustrations. The other students provide feedback on their classmates' work through email.

As mentioned before, teachers can become creative and use what they know in a way that includes new literacies in their lessons and in their teaching. All in all, diversity and culture are fostered and at the same time students use technology, have fun, develop critical thinking skills, and learn to participate, collaborate, and build knowledge.

Teacher Education

It can be said that schools need to impart high standards of knowledge and skills. To make this happen, teachers can incorporate technology in the classrooms to maintain continuity with the outside world. Technology is not the end; it is a means to the end (Willis, 2006). Although schools have computers and access to the internet, teachers are often left to their own devices to integrate technology into their lessons. Their success depends on their readiness and willingness to incorporate technology. It is not enough to have the technology in the classroom, rather we should have teachers who are familiar with it and can use technology creatively to produce diverse results and to create inclusive classrooms. Therefore, there is an urgent need to prepare teachers to integrate technology in the classroom because the success of the school relies on how well teacher candidates are prepared (Willis, 2006). The purpose behind this, according to the author, is preparing teachers to help them build their own experiences in using technology in the classroom. The training could be on-going and provided at several levels, such as basic,

moderate and expert (Muir-Herzig, 2004). According to the authors, in Vannatta and O'Bannon`s Project PICT Training Model for preparing teachers to use technology, four components can be taken into consideration:

1. Teachers might share leaderships in setting the goals and activities to lead to technology incorporation.
2. Team collaboration to develop and execute lesson plans using technology.
3. One to one collaborations between participants during training when participants go through training.
4. Participants attend a certain number of sessions with instruction on integrating technology into lessons, classroom management, and methods on how to incorporate and evaluate technology.
5. Communication of expectations along with long-term goals of technology use. (Muir-Herzig, 2004).

Educating teachers to employ technology in the classroom to meet the standards of 21st century literacies might help teachers to adapt their instruction more closely to the local culture. In other words, this will help teachers create engaging content instruction with the technologies that students use outside of the classroom.

Conclusion

Because we live in a digital age where students are frequently interacting with new technologies, the use of technology has become an urgent need in educational settings. Therefore, educators and teachers in the 21st century should consider creating teaching environments that address these new requirements according to their students' interests and needs. Furthermore, we contend that teachers should be aware of new technologies, as well as trained in using the technologies that their students are using outside the classroom. This is not an easy job, as it requires time and preparation; however, the effort is worth towards students' engagement, motivation, cultural understanding, diversity and most important, meaningful learning. Additionally, students will become more diverse as well more prepared in different topics as they learn and interact with others. There is not a magic key or a perfect solution; these are just recommendations that can be used to integrate technology in the classroom and to engage students in meaningful learning opportunities. There is more to learn about the new literacies that technology requires and supports and ways of employing them in our teaching, but we hope this serves as a starting point.

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